

LISTING OF THE CLAIMS:

Claims 1-42 (cancelled)

43. (New) Component operating with surface-proximal acoustic waves, said component comprising:

- 5 - at least three interdigital transducers being arranged on the surface of a piezoelectric substrate, said interdigital transducers being respectively provided with a first and a second electrical connection and being electrically circuited with one another via these connections, so that the interdigital transducers are selected from serial and parallel interdigital transducers,
- 10 - at least one serial interdigital transducer being arranged in at least one serial branch serving as a signal path, said branch connecting the input and the output of the component and in which all elements contained therein are electrically connected in series,
- at least one parallel branch in which is arranged a parallel interdigital
- 15 transducer being connected parallel thereto against a reference potential,
- at least one of the serial or parallel interdigital transducers being arranged in series with an additional interdigital transducer in the propagation direction of the acoustic wave, so that both interdigital transducers are acoustically coupled with one another, so that the transducers coupling with each other
- 20 differ from each other by at least one of the following features selected from a group consisting of:
 - a) the interdigital transducers possessing a different aperture,
 - b) the interdigital transducers possessing a different pitch,
 - c) the interdigital transducers belong to different branches of the
 - 25 component,
 - d) of the interdigital transducers, at least one is arranged in the serial branch and the transducers being not directly electrically connected with one another,
 - e) the interdigital transducers comprising a different number of
 - 30 interdigital electrode fingers,

- f) the interdigital transducers exhibiting a different metallization ratio,
and
- g) the interdigital transducers being weighted and exhibiting a different
weighting.

5 44. (New) A component according to claim 43, in which both
coupled interdigital transducers are arranged in a serial branch.

 45. (New) A component according to claim 44, in which both
coupled interdigital transducers are arranged in the same serial branch, and in that
both terminal electrode fingers adjacent to one another of the coupled interdigital
10 transducers are respectively connected with those busbars of the interdigital
transducers that exhibit the lowest potential difference relative to one another.

 46. (New) A component according to claim 43, in which one of a
metallized delay line and a reflector structure is arranged between the two
interdigital transducers.

15 47. (New) A component according to claim 43, in which at least two
serial interdigital transducers following in succession in the circuiting in the serial
branch are arranged next to one another transverse to the propagation direction of
the acoustic surface wave and thus form a cascade, and in which one of these
interdigital transducers is acoustically coupled with an additional interdigital
20 transducer.

 48. (New) A component according to claim 47, in which two
interdigital transducers coupled with one another are arranged in one and the same
cascade.

 49. (New) A component according to claim 48, in which a plurality
25 of interdigital transducers of one cascade are acoustically coupled with a
corresponding number of additional interdigital transducers arranged in a different
cascade.

50. (New) A component according to claim 43, in which at least three serial interdigital transducers arranged next to one another are part of a cascade, in which the three interdigital transducers are acoustically coupled, in which both outer interdigital transducers are circuited parallel to one another and
5 respectively in series relative to the center interdigital transducer.

51. (New) A component according to claim 43, in which two serial interdigital transducers are coupled that are not arranged one directly after the other in the series circuit, and between which in the circuiting in the serial branch is arranged at least one further acoustically uncoupled interdigital transducer.

10 52. (New) A component according to claim 43, in which the two acoustically coupled interdigital transducers are separated from one another via an acoustically transmissive intermediate reflector that comprises a number of n reflector strips, whereby n is a positive natural number with $1 \leq n \leq 100$.

15 53. (New) A component according to claim 43, in which at least two serial interdigital transducers are provided and acoustically coupled with one another and in which at least two parallel branches are provided, each with a parallel interdigital transducer, so that both parallel interdigital transducers are acoustically coupled.

20 54. (New) A component according to claim 43, in which two parallel interdigital transducers are provided that are part of a DMS filter.

55. (New) A component according to claim 43, in which in the serial branch a DMS structure is arranged that is acoustically coupled with at least one serial interdigital transducer.

25 56. (New) A component according to claim 43, in which all serial interdigital transducers are arranged in a common serial track and all parallel interdigital transducers are arranged in a common parallel track.

57. (New) A component according to claim 43, in which the aperture of the parallel track is larger than that of the serial track.

58. (New) A component according to claim 57, in which the aperture of the serial track is at least 15λ large, whereby λ is the acoustic wavelength at a center frequency of the component.

59. (New) A component according to claim 43, in which the two interdigital transducers acoustically coupled with one another exhibit the same finger period, however are displaced against each other by an amount Δx , with $-0.25 < \Delta x/\lambda < 0.25$, whereby λ is the acoustic wavelength at a center frequency of the component.

60. (New) A component according to claim 43, in which the finger period of the parallel interdigital transducers is larger than that of the serial interdigital transducers (IS).

61. (New) A component according to claim 43, in which additional elements selected from one-port resonators and DMS tracks are connected serially to the serial interdigital transducers.

62. (New) A component according to claim 43, in which additional elements selected from one-port resonators and DMS tracks are connected serially to the parallel interdigital transducers.

63. (New) A component according to claim 43, in which at least one part of the electrical connections between the interdigital transducers, or between the interdigital transducers, input, output and between the interdigital transducers and the electrical ground are realized as discrete elements selected from a group consisting of capacitors, delay lines, resistors, inductors, bond wires, bumps and other suitable connection elements.

64. (New) A component according to claim 43, in which, viewed over the length of the interdigital transducer and reflector, the finger period varies within one of the interdigital transducer and a reflector.

5 65. (New) A component according to claim 43, in which, viewed over the length of one of the interdigital transducer and reflector, the metallization ratio varies within one of the interdigital transducer and the reflector.

66. (New) A component according to claim 64, in which the actual values for one of the metallization ratio and finger period vary maximally $\pm 3\%$ around an average value.

10 67. (New) A component according to claim 64, in which, viewed over the length of one of the interdigital transducer and the reflector, the actual values for one of the metallization ratio and finger period correspond to the actual values of a periodically sampled continuous function.

15 68. (New) A component according to claim 43, in which a phase shift exists or a different finger period is set between two adjacent elements (selected from interdigital transducer and reflector) within an acoustic track, whereby the transition between the two elements is quasi-periodic.

20 69. (New) A component according to claim 43, in which the connection sequence of the electrode fingers to an interdigital transducer is irregularly alternating and the interdigital transducer exhibits a withdrawal weighting.

70. (New) A component according to claim 43, in which the position of the transversal gap in one type of interdigital transducer varies viewed over the length of the interdigital transducer.

25 71. (New) A component according to claim 43, in which the size of the transversal gap in one type of interdigital transducer varies viewed over the length of the interdigital transducer.

72. (New) A component according to claim 71, wherein the height g of the transversal gaps is $g \leq \lambda/4$.

73. (New) A component according to claim 43, in which the interdigital transducers respectively belong to resonators that respectively exhibit a
5 resonance frequency and an anti-resonance frequency, whereby the resonance frequency of the serial interdigital transducers lies in the range of the anti-resonance frequency of the parallel interdigital transducer or slightly above it.

74. (New) A component according to claim 43, in which the serial interdigital transducers are detuned against one another.

10 75. (New) A component according to claim 43, in which all apertures and overlappings of the electrode fingers are equal within an acoustic track.

76. (New) A component according to claim 43, in which the parallel interdigital transducers are detuned against one another.

15 77. (New) A component according to claim 43, which includes a piezoelectric substrate that exhibits a surface aligned to crystal axes via suitable cut angles, said substrate being known for low losses given surface waves, Raleigh waves, shear waves, leak waves, BGS waves and HPVSAW.

20 78. (New) A component according to claim 77, in which the piezoelectric substrate comprises one of the materials selected from a group consisting of LiTaO_3 , LiNbO_3 , quartz, langasite, langatate, GaBO_4 , $\text{Li}_2\text{B}_4\text{O}_7$, langanite, KnbO_3 and GaAs.

25 79. (New) A component according to claim 77, in which the piezoelectric substrate comprises a piezoelectric film that is applied on a carrier substrate.

80. (New) A component according to claim 79, in which the piezoelectric film is selected from a group consisting of LiTaO_3 , LiNbO_3 , AlN , ZnO and GaAs .

5 81. (New) A component according to claim 43, in which the interdigital transducers, the reflectors and the conductive structures connecting them in the circuiting are fashioned as metallic structures and are comprised of a material selected from a group consisting of aluminum, an aluminum alloy and multilayer structures, whereby the individual layers of the multilayer structure comprise at least one layer made from a material selected from a group consisting of aluminum, an
10 aluminum alloy, Cu, Zr, Mg, Ti and Sc.

82. (New) A component according to claim 81, in which the layer thicknesses h of the metallic structures are selected in the range of $1\% < h/\lambda < 15\%$.

83. (New) A component according to claim 81, in which passivation layers are provided over the metallic structures.

15 84. (New) A component according to claim 43, wherein the reference potential to which the at least one parallel branch is connected is a free-floating internal reference potential.